

IN THE CLAIMS:

Please substitute the following claims for the same-numbered claims in the application:

1. (Currently Amended) A computer-implemented method for determining a production plan, said method comprising:

receiving a first file comprising purchase order receipts, said purchase order receipts being defined as line items on purchase orders;

performing a ~~pre-processing~~ first rescheduling process so that ~~said of the timing of~~ purchase order receipts are rescheduled to be received by a plant during ~~into~~ earlier time periods than initially specified;

after said performing of said first rescheduling process, solving core production planning system equations using rescheduled purchase order receipts from said first rescheduling process;
and

after said solving, performing a ~~post-processing~~ second rescheduling process so that ~~of the timing of~~ said rescheduled purchase order receipts ~~into~~ from said first rescheduling process are rescheduled to be received by said plant during later time periods than specified during said first rescheduling process; and

outputting a second file based on said solving and said second rescheduling process.

2. (Currently Amended) The method of claim 1, wherein said ~~pre-processing~~ first rescheduling process is based upon a field that indicates whether a receipt may be rescheduled to an earlier point in time.

3. (Currently Amended) The method of claim 1, wherein said ~~pre-processing~~ first rescheduling process is based upon frozen zone rules.

4. (Currently Amended) The method of claim 1, wherein said ~~pre-processing~~ second rescheduling process is based upon one of a date of need, frozen zone rules, and date tolerances.

5. (Currently Amended) The method of claim 1, further comprising after said solving, sorting of said rescheduled purchase order receipts from said first rescheduling process.
6. (Currently Amended) The method of claim 5, wherein said sorting ~~of purchase order receipts~~ is based upon one of arrival dates, purchase order receipt quantity, and the flexibility of purchase order receipt movement with respect to frozen zone rules.
7. (Currently Amended) The method of claim 1, further comprising recomputing ending inventory levels to reflect said second ~~post-processing~~ rescheduling process.
8. (Currently Amended) A computer-implemented method of rescheduling timing of when items on purchase orders are rescheduled to be received in a linear programming production planning system, said method comprising:
- receiving a first file comprising purchase order receipts, said purchase order receipts being defined as line items on purchase orders;
- performing a ~~pre-processing~~ first rescheduling process so that said ~~of the timing of~~ purchase order receipts are rescheduled to be received by a plant during ~~into~~ the earliest time periods allowable by a supplier;
- after said performing of said first rescheduling process, solving core production planning system equations using rescheduled purchase order receipts from said first rescheduling process;
- after said solving, sorting said rescheduled purchase order receipts from said first rescheduling process, based on predetermined criteria, [[:]] and, based on said sorting, performing a ~~post-processing~~ second rescheduling process so that ~~of the timing of~~ said rescheduled purchase order receipts from said first rescheduling process are rescheduled to be received by said plant during the ~~in the order established by said sorting process, wherein said post-processing rescheduling process reschedules the timing of purchase order receipts into the latest time periods allowable by said supplier; and~~
- outputting a second file based on said solving and said second rescheduling process.

9. (Currently Amended) The method in claim 8, wherein said ~~pre-processing first~~ rescheduling process is limited by flags associated with said purchase order receipts that one of prevent said purchase order receipts from being rescheduled, and limit the extent to which said purchase order receipts can be rescheduled.
10. (Currently Amended) The method in claim 8, wherein said sorting comprises:
sorting said rescheduled purchase order receipts into different classes of rescheduling flexibility;
sorting said rescheduled purchase order receipts within each of said classes of rescheduling flexibility into different classes of arrival dates; and
sorting said rescheduled purchase order receipts within each of said classes of arrival dates based on quantities within said rescheduled purchase order receipts.
11. (Currently Amended) The method in claim 8, wherein said ~~post-processing second~~ rescheduling process reschedules ~~the timing of~~ each of said purchase order receipts into the latest time period before the corresponding inventory level would be depleted to zero.
12. (Currently Amended) The method in claim 8, wherein if a time period for receiving by said plant of a purchase order receipt ~~timing~~ can be extended beyond the latest date of the planning horizon of said linear programming production planning system, said purchase order receipt is eliminated.
13. (Currently Amended) The method in claim 8, further comprising recomputing ending inventory levels to reflect said ~~post-processing second~~ rescheduling process ~~of the timing of purchase order receipts~~.

14. (Currently Amended) The method in claim 8, wherein said second post-processing rescheduling process limits rescheduling of ~~said purchase order receipts~~ to comply with contractual obligations and to avoid trivial rescheduling.

15. (Currently Amended) A computer-implemented method of rescheduling timing of when items on purchase orders are rescheduled to be received in a linear programming production planning system, said method comprising:

receiving a first file comprising purchase order receipts, said purchase order receipts being defined as line items on purchase orders;

performing a ~~pre-processing~~ first rescheduling process so that said ~~of the timing of~~ purchase order receipts are rescheduled to be received by a plant during ~~into~~ the earliest time periods allowable by a supplier;

after said performing of said first rescheduling process, solving core production planning system equations using rescheduled purchase order receipts from said first rescheduling process;

after said solving, sorting said rescheduled purchase order receipts from said first rescheduling process according to rescheduling flexibility[[;]] and, based on said sorting, performing a ~~post-processing~~ second rescheduling process so that ~~of the timing of each of~~ said rescheduled purchase order receipts from said first rescheduling process are rescheduled to be received by said plant during the ~~in the order established by said sorting process, wherein said post-processing rescheduling process reschedules the timing of purchase order receipts into the~~ latest time periods allowable by said supplier ; and

outputting a second file based on results of said solving and said second rescheduling process.

16. (Currently Amended) The method in claim 15, wherein said ~~pre-processing~~ first rescheduling process is limited by flags associated with said purchase order receipts that one of prevent said purchase order receipts from being rescheduled, and limit the extent to which said purchase order receipts can be rescheduled.

17. (Currently Amended) The method in claim 15, wherein said sorting comprises:
 sorting said rescheduled purchase order receipts into different classes of rescheduling flexibility;
 sorting said rescheduled purchase order receipts within each of said classes of rescheduling flexibility into different classes of arrival dates; and
 sorting said rescheduled purchase order receipts within each of said classes of arrival dates based on quantities within said rescheduled purchase order receipts.
18. (Currently Amended) The method in claim 15, wherein said ~~post-processing second~~ rescheduling process reschedules ~~the timing of~~ each of said rescheduled purchase order receipts into the latest time period before the corresponding inventory level would be depleted to zero.
19. (Currently Amended) The method in claim 15, wherein if a time period for receiving by said plant of a purchase order receipt ~~timing~~ can be extended beyond the latest date of the planning horizon of said linear programming production planning system, said purchase order receipt is eliminated.
20. (Currently Amended) The method in claim 15, further comprising recomputing ending inventory levels to reflect said ~~post-processing second~~ rescheduling process ~~of the timing of purchase order receipts~~.
21. (Currently Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform a method of rescheduling timing of when items on purchase orders are rescheduled to be received in a linear programming production planning system, said method comprising:
 receiving a first file comprising planned purchase order receipts, said purchase order receipts being defined as line items on purchase orders;

performing a ~~pre-processing~~ first rescheduling process so that said ~~of the timing of~~ purchase order receipts are rescheduled to be received by a plant during ~~into~~ the earliest time periods allowable by a supplier;

after said performing of said first rescheduling process, solving core production planning system equations using rescheduled purchase order receipts from said first rescheduling process;

after said solving, sorting said rescheduled purchase order receipts from said first rescheduling process, based on predetermined criteria,[[;]] and, based on said sorting, performing a post-processing second rescheduling process so that of the timing of said rescheduled purchase order receipts from said first rescheduling process are rescheduled to be received by said plant during the in the order established by said sorting process, wherein said post processing rescheduling process reschedules the timing of purchase order receipts into the latest time periods allowable by said supplier; and

outputting a second file based on said solving and said second rescheduling process.

22. (Currently Amended) The program storage device in claim 21, wherein said ~~pre-processing~~ first rescheduling process is limited by flags associated with said purchase order receipts that one of prevent said purchase order receipts from being rescheduled, and limit the extent to which said purchase order receipts can be rescheduled.

23. (Currently Amended) The program storage device in claim 21, wherein said sorting comprises:

sorting said rescheduled purchase order receipts into different classes of rescheduling flexibility;

sorting said rescheduled purchase order receipts within each of said classes of rescheduling flexibility into different classes of arrival dates; and

sorting said rescheduled purchase order receipts within each of said classes of arrival dates based on quantities within said rescheduled purchase order receipts.

24. (Currently Amended) The program storage device in claim 21, wherein said second ~~post-processing~~ rescheduling process reschedules ~~the timing of~~ each of said purchase order receipts into the latest time period before the corresponding inventory level would be depleted to zero.

25. (Currently Amended) The program storage device in claim 21, wherein if a time period for receiving a purchase order receipt ~~timing~~ can be extended beyond the latest date of the planning horizon of said linear programming production planning system, said purchase order receipt is eliminated.

26. (Currently Amended) The program storage device in claim 21, wherein said method further comprises recomputing ending inventory levels to reflect said ~~post-processing~~ second rescheduling process ~~of the timing of purchase order receipts~~.

27. (Currently Amended) The program storage device in claim 21, wherein said ~~post-processing~~ second rescheduling process limits rescheduling ~~of said purchase order receipts~~ to comply with contractual obligations and to avoid trivial rescheduling.